

Appl. No. 10/675,912
Amdt. Dated April 14, 2006
Reply to Office Action of December 14, 2005

Attorney Docket No. 81864.0025
Customer No.: 26021

REMARKS

This application has been carefully reviewed in light of the Office Action dated December 14, 2005. Claims 1-11 remain in this application. Claims 1 and 8 are the independent Claims. It is believed that no new matter is involved in the amendments or arguments presented herein. Reconsideration and entrance of the amendment in the application are respectfully requested.

Double Patenting Rejections

Claims 1 to 11 were rejected under nonstatutory obviousness-type double patenting over claims 1-5 of U.S. Patent No. 6,811,620 (Ishizaka); Claims 1-11 were provisionally rejected under nonstatutory obviousness-type double patenting over claims 1-11 of copending Application No. 10/675,230 (Nishizawa), and 1-9 of copending Application No. 10/799,153 (Ishizaka II).

In response, Applicant is submitting concurrently a Terminal Disclaimer over Ishizaka. Recordation and withdrawal of the above rejections are respectfully request.

Art-Based Rejections

Claims 1-11 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. EP 1 164 599 A2 (Yamamoto), or in the alternative, under § 103(a) over the same; Claims 1-9 were rejected under § 103(a) over each of Ishizaka and Ishizaka II.

With regard to the § 103(a) rejection over Ishizaka and Ishizaka II, Applicant notes the filing date of the present application predates both applied references. The filing date of present application is September 29, 2003. Ishizaka's filing date March 11, 2004. Ishizaka II's filing date is March 11, 2004. Since the filing date of the present application predates both applied references, those references do not

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constitute prior art to the present application. Reconsideration and withdrawal of the § 103(a) rejection over Ishizaka and Ishizaka II are thus respectfully requested.

Applicant respectfully traverses the remaining rejections, and submits that the claims herein are patentable in light of the arguments below.

The Yamamoto Reference

Yamamoto is directed to a R-Fe-B based permanent magnet. According to Yamamoto, that material is composed of a R-Fe-B magnet alloy containing 87.5-97.5%, by volume, $\text{Fe}_{14}\text{R}_2\text{B}_1$ by volume, and 0.1-3%, by volume, rare earth oxide or rare earth and transitional metal oxide. (See, Yamamoto; Section 57; Claim 1).

The Claims are Patentable Over the Cited References

The present application is generally directed to an R-T-B system rare earth permanent magnet having a sintered body.

As defined by independent Claim 1, an R-T-B system rare earth permanent magnet including a sintered body with a composition 25% to 35% by weight of R, (R represents one or more rare earth elements, providing that the rare earth elements include Y), 0.5% to 4.5% by weight of B, 0.02% to 0.6% by weight of Al and/or Cu, 0.03% to 0.25% by weight of Zr, 4% or less by weight (excluding O) of Co, and the balance substantially being Fe. A coefficient of variation (CV value) showing the dispersion degree of Zr in the sintered body is 130 or less.

The applied reference does not disclose or suggest the above features of the present invention as defined by independent Claim 1. In particular, Yamamoto does not disclose or suggest, "a coefficient of variation (CV value) showing the dispersion degree of Zr in said sintered body is 130 or less," as required by that claim.

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With regard to the 102(b) rejection over the applied Yamamoto reference, Applicant notes that reference discloses a R-Fe-B based permanent magnet containing Fe-R-B (*U.C. Yamamoto; Example 3-3*), but is silent regarding a coefficient of variation (CV value) showing the dispersion degree of Zr in the sintered body be 130 or less, as required by independent Claim 1. Example 3-3 of Yamamoto includes a Zr containing high-R alloy, which results in magnets having CV index of 150 or greater, as demonstrated herein.

In Figure 2 of Specification, magnets No. 2-9 and 16-18 includes Zr containing low-R alloy; magnets No. 10-14 and 19-20 includes Zr containing high-R alloy. As illustrated in that figure, the magnets of Zr containing low-R alloy achieve CV index of 130 or less. The magnets of Zr containing high-R alloy have CV index over 150. Accordingly, the addition of Zr to the low-R alloy is an important feature impacting the CV index. The Example 3-3 of Yamamoto includes addition of Zr to the high-R alloy. The CV index of that magnet is thus over 150, as do the magnets No. 10-14 and 19-20 of Figure 2 of Specification.

Accordingly, Yamamoto does not disclose or suggest the features of independent Claim 1.

With regard to the 103(a) rejection over the applied Yamamoto reference, Applicant notes that in order to obtain a high dispersion of Zr represented by a CV index of 130 or less, adding Zr to the low-R alloy is required. The CV value is a direct measurement of the dispersion of Zr in the sintered body of the claimed R-T-B system rare earth permanent magnet. CV index value is inversely proportional to the dispersion of Zr (*see, Specification; Page 10, lines 4-12*). The high dispersion of Zr in the sintered body of the R-T-B system rare earth permanent magnets presents growth of abnormal grain growth in the sintering process. Accordingly, the deterioration of other magnetic properties, such as a residual magnetic flux density,

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can be minimized, and suitable sintering temperature range can be maintained.
(See, *Specification; Page 35, lines 1-11*).

Yamamoto does not disclose or suggest the impact of Zr dispersion on magnetic properties, inhibition of grain growth, and maintaining temperature range. Accordingly, Yamamoto does not disclose or suggest the features of independent Claim 1.

Accordingly, independent Claim 1 is believed to be in condition for allowance and such allowance is respectfully requested.

Regarding independent Claim 8, Applicant notes that claim recites "the suitable sintering temperature range, ..., is 40°C or more." The magnet of Example 3-3 of Yamamoto does not disclose or suggest a suitable sintering temperature range of 40°C or more, but rather 20°C (*see Yamamoto; Table 3*).

Moreover, Example 3-4, purported by the Office Action as disclosing the composition of present claim, disclose 0.45% Zr by weight. In contrast, independent Claim 8 requires 0.03% to 0.25% Zr by weight.

Furthermore, the magnet of Example 3-4 of Yamamoto does not disclose or suggest a suitable sintering temperature range of 40°C or more, but rather 30°C (*see Yamamoto; Table 4*).

Since the applied reference fails to disclose, teach or suggest the above features recited in independent Claims 1 and 8, that reference cannot be said to anticipate or render obvious the invention which is the subject matter of those claims.

The remaining claims depend either directly or indirectly from independent Claims 1 and 8, and recite additional features of the invention which are neither disclosed nor fairly suggested by the applied references and are therefore also

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believed to be in condition for allowance, and such allowance is respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (213) 337-6809 to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,

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